GP5-0080-P
131966-2

REMARKS

Claims 1 – 24 are pending in the present Application. Claims 1, 2, and 14 have been amended. The amendments are supported by the patent specification (see Summary).

Reconsideration and allowance of the claims are respectfully requested in view of the following remarks.

Double Patenting

Claims 1 – 24 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims of copending Application No. 10/277,786.

Applicants hereby submit an executed terminal disclaimer in compliance with 37 CFR 1.321(c) to overcome the rejection.

Claim Rejections under 35 U.S.C. § 103(a)

The Examiner rejected claims 1 – 24 under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,140,624 to Gilbert in view of U.S. Patent No. 4,263,528 to Miram, stating that: "[i]n view of Miram, it would have been obvious to one of ordinary skill in the art to apply the first boron nitride prior to forming the electrical pattern in the graphite body as an alternative process to effectively form such electrical pattern on the graphite body along with the coated boron nitride layer."

The present invention as amended is directed at a heater having a conductor comprising a "solid graphite body" (sometimes called bulk graphite in the art). The solid graphite body is machined or configured to form an electrical pattern. In the invention, the use of bulk graphite makes a heater stable part, which is subsequently encapsulated with a coating such as pyrolytic boron nitride to seal the machine surfaces.

Gilbert discloses a heater having a body or base of pyrolytic boron nitride (Col. 2, line 25). The Gilbert pyrolytic boron nitride body or base plate is, on the other hand, encapsulated with a coating layer of pyrolytic graphite, which is then machined or configured into a desired configuration. Gilbert teaches that the pyrolytic graphite coating is deposited on a boron nitride base plate (substrate) by chemical vapor deposition, prior to being machined (Col. 2, lines 46 – 51). Gilbert is silent on the use of a solid graphite body. Specifically, Gilbert relates to "a heating element of pyrolytic graphite" (Col. 4, line 1) comprising a coating of pyrolytic graphite or a thin conductor

film of pyrolytic graphite. Gilbert therefore does not teach all elements of the claimed invention.

Miram teaches an electron gun having a control grid in contact with the face of the cathode, wherein unwanted thermionic emission from the cathode can be effectively suppressed by applying a thin coating of boron nitride to the surface of the control grid (see Abstract). The base of Miram's electron gun is a cathode comprising *a porous* tungsten matrix (Col. 2, line 44). The tungsten base is encapsulated with a metal or pyrolytic graphite layer 14 (Col. 2, line 56-61) as a coating layer (Col. 3, line 15-20). On top of the graphite encapsulated tungsten cathode base is an insulating boron nitride layer 16 (Col. 2, line 62-63). A conductive pyrolytic graphite layer 18 is deposited on the insulating boron nitride layer (Col. 2, line 67). An additional boron nitride layer 21 is deposited on top of layer 18 (Col. 3, line 23-25), and then electrical patterned is formed by chemical etching. First of all, the pyrolytic graphite layers disclosed in Miram are coating layers and not a graphite body as in the present invention. Secondly, the graphite coatings are applied PRIOR to forming an electrical pattern thereon.

As Miram does not cure the deficiencies of Gilbert, the combination of Gilbert with Miram would not produce the claimed invention. For an obviousness rejection to be proper, the Examiner must meet the burden of establishing a *prima facie* case of obviousness, i.e., that all elements of the invention are disclosed in the prior art; that the prior art relied upon, coupled with knowledge generally available in the art at the time of the invention, contain some suggestion or incentive that would have motivated the skilled artisan to modify a reference or combined references; and that the proposed modification of the prior art had a reasonable expectation of success, determined from the vantage point of the skilled artisan at the time the invention was made. *In re Fine*, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988); *In Re Wilson*, 165 U.S.P.Q. 494, 496 (C.C.P.A. 1970); *Amgen v. Chugai Pharmaceuticals Co.*, 927 U.S.P.Q.2d, 1016, 1023 (Fed. Cir. 1996).

Furthermore, there is also no motivation to combine Gilbert with Miram. Gilbert desires to improve heating through radiation by improving emissivity over other radiant heaters (Col. 1, lines 43 – 45). Miram, on the other hand, is directed at inhibiting emissions that can contribute to radiation (Col. 2, lines 9 – 11). One of ordinary skill in the art upon reading these contradictory teachings would not be motivated to combine references in the manner undertaken

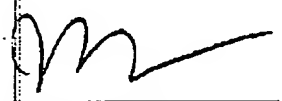
by the Examiner. Courts have held that "[i]t is improper to combine references where the references teach away from their combination." *In re Grasselli*, 713 F.2d 731, 743, 218 USPQ 769, 779 (Fed. Cir. 1983).

Lastly, Miram is drawn from a field of non-analogous art. The present invention is directed to a heater. Miram, on the other hand, is directed to grid-controlled electron sources that are used in high frequency tubes such as planar triodes and in the electron guns for beam-type microwave tubes (Col 1, lines 20 – 22). Courts have held that "[F]or the purposes of evaluating obviousness of claimed subject matter, the particular references relied upon must constitute "analogous art"." *In re Clay*, 966 F.2d 656, 659, 23 U.S.P.Q.2d 1058, 1060-61 (Fed. Cir. 1992).

Since neither Gilbert nor Miram teach all elements of the claimed invention and since there is no motivation to combine Gilbert with Miram, Applicants respectfully request a withdrawal of the rejection and an allowance of Claims 1 – 24. It is believed that the foregoing remarks fully comply with the Office Action and that the claims herein should now be allowable. Accordingly, reconsideration and allowance are requested.

If there are any additional charges with respect to this Response or otherwise, please charge them to Deposit Account No. 06-1130.

Respectfully submitted,



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